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1863.	Age.
Sept. 2	19 days.
Sept. 3	20 days.
Sept. 3	20 days.

1864.	Age.
June 13	9 days.
June 13	9 days.
Oct. 18	17 days.

1872.	Age.
Sept. 9	7 days.

1873.	Age.
July 16	22 days.
Sept. 9	18 days.
Sept. 12	21 days.
Sept. 13	22 days.

1874.	Age.
July 22	9 days.
July 24	11 days.

1878.	Age.
July 14	14 days.

1880.	Age.
Aug. 29	24 days.
Aug. 29	24 days.
Sept. 24	20 days.
Sept. 30	26 days.

The grateful thanks of the observatory are returned to Mrs. DRAPER for this important addition to its collections. E. S. H.

THE MOTION OF THE SOLAR SYSTEM.

Dr. KEMPF of Potsdam, at Prof. VOGEL'S suggestion, has investigated the value of the recent Potsdam spectroscopic observations, when applied to the problem of the Sun's motion in space. The velocities of 51 bright stars were measured. By giving equal weights to the results for all the stars and solving for the resultant motion of all (which is assumed to be exactly the opposite of the Sun's motion) it was found that most probably the solar system was moving towards that point of the heavens whose co-ordinates are:

$$\text{R. A.} = 206^\circ.1 \pm 12^\circ.0, \qquad \text{Dec.} = +45^\circ.9 \pm 9^\circ.2,$$

with a velocity of 11.61 ± 1.84 English miles per second. But it is known that in certain groups of stars the individual stars have nearly equal velocities and proper motions. Such groups are, in the Potsdam list, β, γ, δ, ϵ, ζ *Orionis*, β, γ, ϵ, ζ, η *Ursæ Majoris*, and α, β, δ *Leonis*. By treating each of these groups as if it were a single star, Dr. KEMPF obtained the following as the most probable elements of the solar motion:

$$\text{R. A.} = 159^\circ.7 \pm 20^\circ.2, \quad \text{Dec.} = +50^\circ.0 \pm 14^\circ.3,$$
$$\text{Velocity} = 8.06 \pm 2.02 \text{ English miles.}$$

Previous determinations of the solar motion have all been

based upon proper motions and parallaxes. The half-dozen determinations by STRUVE, STUMPE, BOSS and others all place the direction of motion between the limits

$$252^\circ \text{ and } 290^\circ \text{ for Right Ascension,}$$
$$\text{and } +14^\circ \text{ and } +51^\circ \text{ for Declination.}$$

It will be noticed that the Potsdam results both lie far outside these limits in Right Ascension, and very near the upper limit in Declination.

By assuming the direction determined by L. STRUVE,

$$\text{R. A.} = 266^\circ.7, \qquad \text{Dec.} = +31^\circ.0,$$

and solving for the velocity as the only unknown quantity, Dr. KEMPF obtained

$$\text{Velocity} = 7.64 \pm 1.84 \text{ English miles.}$$

As a result of the investigation Prof. VOGEL concludes that the data of observation are not extensive enough to furnish with any certainty the co-ordinates of the point towards which the solar system is moving; but that the observations, few as they are, determine the velocity of the motion more satisfactorily than do the earlier investigations which were based upon the apparent proper motions and the very uncertain distances of the stars.

W. W. C.

UNIVERSAL TIME.

The bill declaring the legal time for Germany to be that of the 15th meridian east of Greenwich passed the third reading on February 16. It is to come into force on April 1. In a letter addressed to the Astronomer Royal, it is stated by Dr. SCHRAM that a similar bill has been laid before the Austrian Parliament, and it is hoped that the change will be made simultaneously with Germany. The draft of the Austrian bill provides—

I. That the legal time in Austria is the mean solar time of the meridian 15° east of Greenwich. The same is to replace on April 1, 1893, the present local times for legal, civil, and all other purposes.

II. The Government is authorized to make the changes in the school and industrial hours, which will become necessary in consequence of the adoption of the above.—From *The Observatory*, March, 1893.